

## CLAIMS

1. In a network of devices, a method for a querying device to determine the availability of network-connected devices, the method comprising:

5 at a querying device, building a graphical user interface (GUI) representing the availability of known network-connected devices;

following the building of the GUI, querying the known network-connected devices to determine their availability.

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2. The method of claim 1 further comprising:

at a querying device user interface, issuing a command requesting the availability of devices known to be connected to the network; and

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wherein building a GUI representing the availability of known network devices includes building the GUI in real-time, in response to querying device user interface command.

3. The method of claim 2 further comprising:

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following the building of the GUI, representing each of the known network-connected devices in the GUI as unavailable.

4. The method of claim 3 wherein querying of the known network-connected devices includes spawning a thread from the querying device to query each of the network-connected devices; and

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the method further comprising:

receiving a query reply from a network connected device;

and

in response to receiving a query reply from a network  
5 connected device, changing the GUI representation of that particular  
network device to available.

5. The method of claim 4 further comprising:

failing to receive a query reply from a network connected  
10 device; and

in response to failing to receive a query reply from a  
network connected device, maintaining the GUI representation of the  
particular network device as unavailable.

15 6. The method of claim 5 wherein not receiving a  
query reply from a network connected device includes:

accepting a timeout period for each network connected  
device query; and

if the timeout period expires before a query reply is  
20 received, determining that the particular network connected device is  
unavailable.

7. The method of claim 2 wherein building the GUI in  
real-time includes building the GUI within approximately 0.5 seconds  
25 of the query device user interface command.

8. The method of claim 6 wherein spawning a thread  
from the querying device to query each of the known network-  
connected devices includes using a function selected from the group  
including a Sockets connect function, a ping function, and a  
5 NSLookup function.

9. The method of claim 6 wherein spawning a thread  
from the querying device to query each of the known network-  
connected devices includes requesting a True/False answer;  
10 wherein receiving a query reply from a network connected  
device includes returning a True answer; and  
wherein changing the GUI representation of that  
particular network device to available includes changing the GUI  
representation to available in response to a True answer.

15 10. The method of claim 9 further comprising:  
returning a False answer if the timeout period expires  
before a query reply is received for a network connected device; and  
wherein maintaining the GUI representation of the  
20 particular network device as unavailable includes maintaining the  
GUI as unavailable in response to the False answer.

11. The method of claim 10 wherein building a  
graphical user interface (GUI) representing the availability of network  
25 includes building a GUI on a computer with a graphical interface;  
and

wherein issuing commands requesting the availability of the network-connected devices includes requesting the availability of network-connected devices selected from the group including printers, copiers, scanners, faxes, automatic teller machines (ATMs), remote  
5 sensors, virtual private network (VPN) devices, satellite devices, and other computers.

12. The method of claim 1 further comprising:  
accepting a periodic refresh command; and  
10 wherein building a GUI representing the availability of known network-connected devices includes refreshing the GUI in response to a refresh command.

13. In a network of connected devices, a method of  
15 building a graphical user interface (GUI) representing the availability of the network-connected devices independent of system timeouts, the method comprising;

from a querying device, building a graphical user interface (GUI) representing the availability of known network-  
20 connected devices;  
initially representing the network-connected devices as unavailable; and  
modifying the GUI to represent available network devices  
in response to communicating with those particular network-  
25 connected devices.

14. The method of claim 13 further comprising:  
maintaining the GUI to represent unavailable network  
devices in response to not communicating with those particular  
network-connected devices.

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15. In a network of connected devices, a system for  
displaying network device availability, the system comprising:

a querying device having a graphical user interface (GUI)  
representing the availability of known network-connected devices, the

10 querying device having a network connection port;

at least one device having a network connection port for  
communications with the querying device; and

wherein the querying device queries known network-  
connected devices to determine their availability, following the  
15 building of the GUI.

16. The system of claim 15 wherein the querying device  
has a user interface to accept commands requesting the availability of  
the network-connected devices; and

20 wherein the querying device builds a GUI, in real-time,  
representing the availability of network devices, in response to  
commands from the querying device user interface.

17. The system of claim 16 wherein the GUI initially  
25 represents each of the network-connected devices as unavailable.

18. The system of claim 17 wherein the querying device spawns a thread to query each of the network-connected devices, and in response to receiving a query reply from a network connected device, changes the GUI representation of that particular network  
5 connected device to available.

19. The system of claim 18 wherein the querying device maintains the GUI representation of the particular network device as unavailable, in response to not receiving a query reply from that  
10 particular network connected device.

20. The system of claim 19 wherein the querying device further includes an operating system and a timer configured with a default timeout value;

15 wherein the querying device maintains the GUI representation of the particular network device as unavailable, in response to not receiving a query reply, as follows:

starting the timer at the beginning of each network connected device query; and

20 if the timeout period expires before a query reply is received from a network connected device, determining that the particular network connected device is unavailable .

21. The system of claim 20 wherein the querying device  
25 builds the GUI within approximately 0.5 seconds of the query device user interface command.

22. The system of claim 20 wherein the querying device spawns a thread to query each of the network-connected devices by using function selected from the group including a Sockets connect  
5 function, a ping function, and a NSLookup function.

23. The system of claim 22 wherein the querying device GUI requests a True/False answer in response to each network connected device query;

10 wherein the querying device GUI receives a True answer from available network-connected devices; and

wherein the querying device GUI changes the representation of that particular network device to available in response to a True answer.

15 24. The system of claim 23 wherein the querying device generates a False answer in response to a the timeout period expiring before a query reply is received for a network connected device; and

wherein the querying device GUI maintains the  
20 representation of the particular network device as unavailable in response to the False answer.

25 25. The system of claim 15 wherein the querying device is a computer and the GUI is represented on a visual display attached to the computer; and

wherein the network-connected devices are selected from the group including printers, copiers, scanners, faxes, automatic teller machines (ATMs), remote sensors, virtual private networks (VPNs), satellite devices, and computers.

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26. The system of 20 wherein the timer is configured with a refresh rate value; and

wherein the querying device accepts commands requesting the availability of the network-connected devices at the  
10 refresh rate value; and

wherein the querying device refreshes the GUI, in real-time, in response to the refresh rate value.

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